

Drinking Water Surveillance Program

**AMHERSTBURG
WATER SUPPLY
SYSTEM**

Annual Report 1989



**Environment
Environnement**

**AMHERSTBURG
WATER SUPPLY SYSTEM**

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1989

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January 1991



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P1BS 1364

EXECUTIVE SUMMARY
DRINKING WATER SURVEILLANCE PROGRAM
AMHERSTBURG WATER TREATMENT PLANT
1989 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

The Amherstburg Water Treatment Plant is a conventional treatment plant which treats water from the Detroit River. The process consists of coagulation, flocculation, clarification, filtration, disinfection and fluoridation. Activated carbon is added for taste and odour control. This plant has a design capacity of $18.8 \times 1000 \text{ m}^3/\text{day}$ and serves a population of approximately 16,000.

Water samples from the Raw and Treated water at the plant and from two sampling sites in the distribution were taken on a monthly basis. These samples were analyzed for the presence of approximately 180 parameters which were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organics (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polyaromatic Hydrocarbons, Specific Pesticides and Volatiles).

A summary of results is shown in Table A.

Inorganic and Physical parameters (Laboratory Chemistry, Field Chemistry and Metals) were below any applicable health related ODWOs.

Samples were analyzed monthly for the presence of approximately 110 Organics. Levels did not exceed health related guidelines.

During 1989, the DWSP sampling results indicated that the Amherstburg Treatment Plant produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS

SUMMARY TABLE BY SCAN

SCAN	RAW			TREATED			SITE 1			SITE 2		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	36	34	94	36	3	8	21	0	0	12	3	25
CHEMISTRY (FLD)	30	29	96	72	72	100	71	71	100	48	48	100
CHEMISTRY (LAB)	252	213	84	244	190	77	249	204	81	142	111	78
METALS	287	166	57	288	116	40	329	171	51	188	92	48
CHLOROMATICS	167	0	0	154	0	0	98	0	0	56	0	0
CHLOROPHENOLS	6	0	0	12	0	0	.	.	.	.	.	.
PAH	194	0	0	192	0	0	.	.	.	.	.	.
PESTICIDES & PCB	395	0	0	387	0	0	186	0	0	97	0	0
PHENOLICS	12	10	83	12	5	41	.	.	.	.	.	.
SPECIFIC PESTICIDES	59	0	0	52	0	0	7	0	0	4	0	0
VOLATILES	319	0	0	348	48	13	203	28	13	116	16	13
TOTAL	1757	452	1797	434	1164	474	663	270				

NO HEALTH RELATED GUIDELINE WAS EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
 A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

AMHERSTBURG WATER TREATMENT PLANT
1989 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

The DWSP was initiated at the Amherstburg Water Treatment Plant in the summer of 1985 as part of a study on the St. Clair/Detroit River area. Annual reports were published in 1986 (ISBN 0-7729-2549-6), 1987 and 1988 (ISSN 839-900X). Other historical Amherstburg Water Treatment Plant data is available in the "Drinking Water Survey St. Clair - Detroit River Area" published by the Ministry of the Environment in 1986.

This report contains information and results for 1989.

In order to accommodate the increased number of plants on the DWSP and to facilitate the timely completion of the 1989 annual reports, plants with two or more years of published data will receive an abbreviated annual report. This report maintains the

same general format as in previous years but does not include a comprehensive discussion of the results. For more detail on the parameters analyzed and discussion of the results, consult the 1987 and 1988 reports.

PLANT DESCRIPTION

The Amherstburg Water Treatment Plant is a conventional treatment plant which treats water from the Detroit River. The process consists of coagulation, flocculation, clarification (upflow solids contact clarifier), filtration, disinfection and fluoridation. Powdered activated carbon is added for taste and odour control. The treatment plant has a design capacity of $18.18 \times 1000 \text{ m}^3/\text{day}$ and sample day flows ranging from $1.4 \times 1000 \text{ m}^3/\text{day}$ to $12.9 \times 1000 \text{ m}^3/\text{day}$. The Amherstburg plant serves a population of approximately 16,000.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

SAMPLING AND ANALYSES

Plant operating personnel perform analyses on parameters for process control (Table 1).

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

AMHERSTBURG WATER TREATMENT PLANT

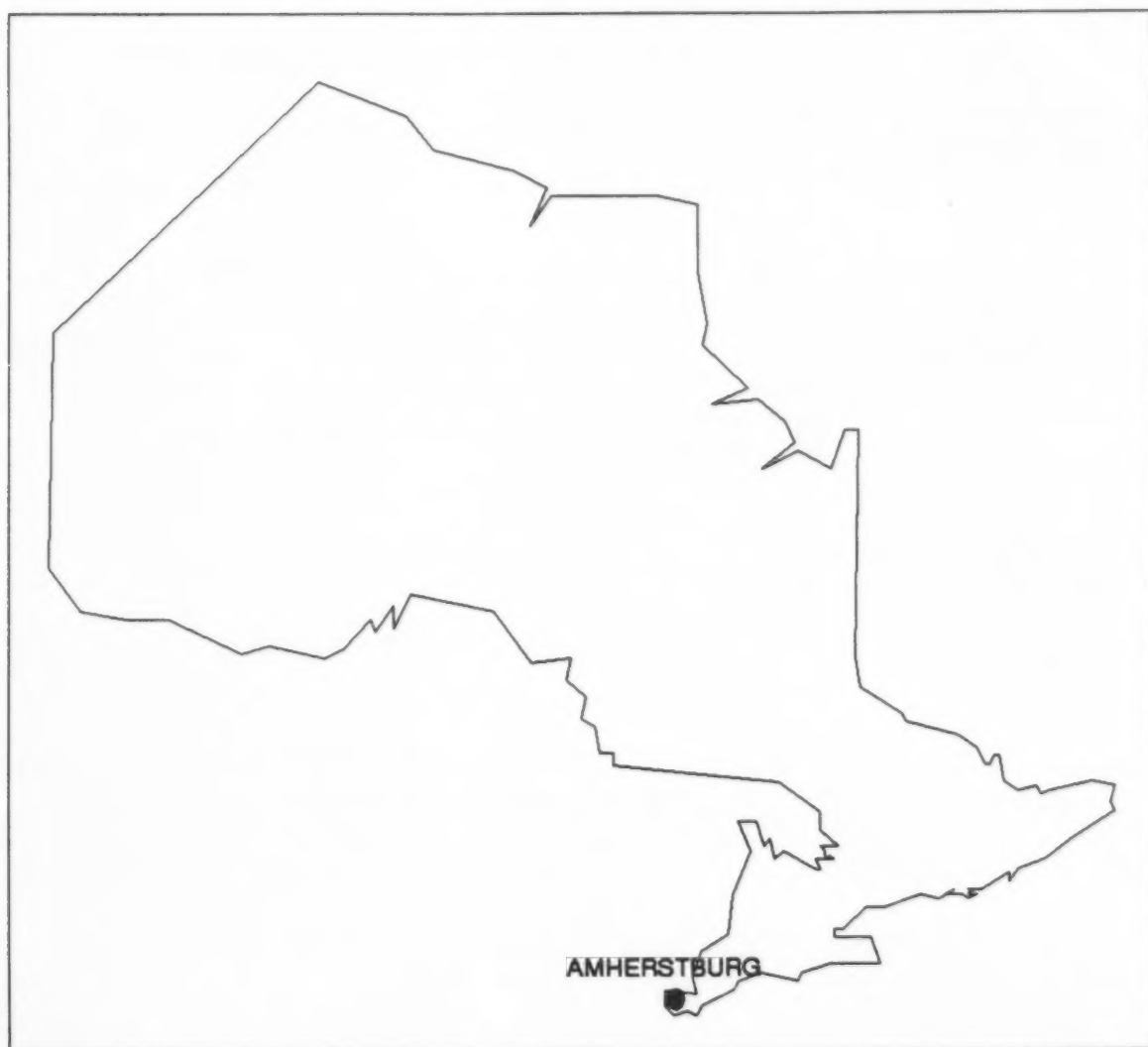


FIGURE 2

AMHERSTBURG WATER TREATMENT PLANT

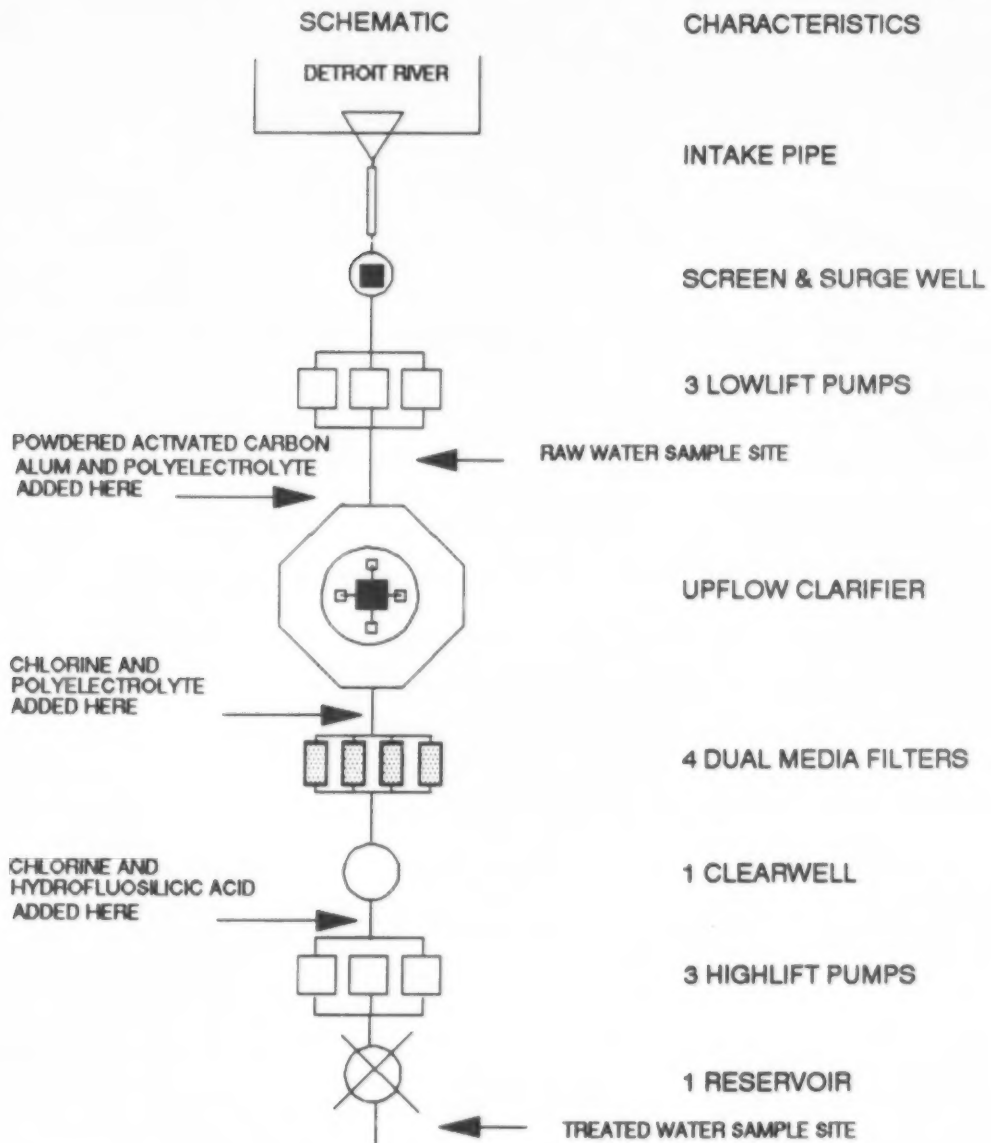


TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT
IN-PLANT MONITORING AMHERSTBURG WATER TREATMENT PLANT 1989

<u>PARAMETER</u>	<u>LOCATION</u>	<u>FREQUENCY</u>
Aluminum Residual	After filters	weekly
Chlorine Residual- Free	After filters	every 4 hrs
	Treated water	daily
Combined	After filters	daily
	Treated water	daily
Total	After filters	daily
	Treated water	daily
Fluoride	Treated water	every 6 hrs
pH	Raw water	daily
	Treated water	daily
Temperature	Raw water	daily
	Treated water	daily
Turbidity	Raw water	every 4 hrs
	After filters	every 4 hrs
	Plant effluent	every 4 hrs

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORTGENERAL INFORMATIONAMHERSTBURG WATER TREATMENT PLANT

LOCATION: 415 FRONT RD NORTH
AMHERSTBURG, ONTARIO
N9V 2V5
(519-736-5447)

SOURCE: RAW WATER SOURCE - DETROIT RIVER

DESIGN CAPACITY: 18.8 (1000 M³/DAY)

OPERATION: MINISTRY OF ENVIRONMENT

PLANT SUPERINTENDENT: L. SINGER

MINISTRY REGION: SOUTHWESTERN

DISTRICT OFFICER: J. DRUMMOND

<u>MUNICIPALITY SERVED</u>	<u>POPULATION</u>
AMHERSTBURG	8,385
TOWNSHIP OF ANDERDON	3,822
TOWNSHIP OF MALDEN	2,000
TOWNSHIP OF COLCHESTER NORTH	1,944

Water at the Amherstburg Water Treatment plant and two distribution locations was sampled for the presence of approximately 180 parameters monthly in 1989. The Specific Pesticides and Chlorophenols scans were sampled in June and November only. Polyaromatic Hydrocarbons and Phenolics are only analyzed in the raw and treated water at the plant. As of August 1989, the analysis of Triazine pesticides was dropped from the distribution sample. Laboratory analysis was conducted at the Ministry of the Environment facilities in Rexdale, Ontario.

RESULTS

Field Chemistry measurements were recorded on the day of sampling and were entered on the DWSP database as submitted by plant personnel.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analyzed by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment

(MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 presents a list of all parameters analyzed in DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters. These are currently under review. When an ODWO is not available, guidelines/limits from other agencies are consulted. The Parameter Listing System (PALIS), recently published (ISBN 0-7729-4461-X) by the MOE, catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Many of the compounds detected are naturally occurring or are treatment by-products.

IN THIS REPORT, DISCUSSION IS LIMITED TO THE TREATED AND DISTRIBUTED WATER AND ADDRESSES ONLY THOSE PARAMETERS WITH CONCENTRATIONS ABOVE GUIDELINE VALUES AND ORGANIC PARAMETERS WITH POSITIVE RESULTS.

Results for the treated and distributed water indicate that no health related guideline was exceeded in 1989.

Inorganic and Physical Parameters

Ammonia

The Total Ammonium level was high in the January treated water sample. While the European Economic Community has an aesthetic guideline of .05 mg/L, the Maximum Admissible Concentration is .50 mg/L and is set as a result of the concern for potential sewage pollution and its detection.

Fluoride

The Laboratory results indicate that fluoride levels were below the ODWO recommended range of 1.0-1.4 mg/L in seven treated and distribution system samples.

Hardness

The ODWOS indicate that a hardness level of between 80 and 100 mg/L as calcium carbonate for domestic waters, provides an acceptable balance between corrosion and encrustation. Water supplies with a hardness greater than 200 mg/L are considered poor and would possess a tendency to form scale deposits and result in excessive soap consumption.

Aluminum

The plant operational guideline of 100 $\mu\text{g/L}$ as Al in the treated water leaving the plant was exceeded in two treated water samples, with a maximum concentration of 180 $\mu\text{g/L}$.

Organic Parameters

Trihalomethanes

Trihalomethanes (THMs) are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs. All Total THM occurrences in the treated and distributed samples, ranging from 20.9 to 38.3 $\mu\text{g/L}$, were well below the ODWO of 350 $\mu\text{g/L}$.

CONCLUSIONS

The Amherstburg Water Treatment Plant for the sample year of 1989 produced a good quality water as assessed by the results for parameters analyzed in DWSP and this quality was maintained in the distribution system.

Comparison with the results of analyses from the DWSP for previous years shows that the raw and treated water quality has remained consistent.

No health related water guidelines, for inorganic or organic parameters, were exceeded.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS SAMPLE DAY CONDITIONS FOR 1989

SAMPLE DAY CONDITIONS

TREATMENT CHEMICAL DOSAGES (MG/L)

DATE	DELAY* TIME(HRS)	FLOW (1000M3)	PRE-CHLORINATION		COAGULATION		COAGULATION AID		TASTE & ODOUR		FILTER AID	
			CHLORINE		ALUM LIQUID		POLYALUMINUM SULPHATE	POLYELECTROLYTE	ACTIVATED CARBON POWDER		POLYELECTROLYTE	
JAN 18	48.0	6.6	1.13				12.60	.15	5.00			.04
FEB 21	48.0	6.4	1.97				14.34	.16	5.31			.35
MAR 20	48.0	5.7	1.66				14.10	.16	5.20			.04
APR 17	48.0	6.0	1.18				18.07	.14	4.78			.05
MAY 17	48.0	7.5	1.50				17.82	.14	4.58			.04
JUN 21	48.0	6.7	1.50				28.07	.15	4.90			.04
AUG 23	48.0	7.5	2.64				21.87	.19	6.32			.05
SEP 20	48.0	7.0	2.73				40.47	.18	5.94			.05
OCT 18	48.0	6.4	1.86				28.30	.22	7.27			.06
NOV 22	48.0	6.2	2.38		60.10		.	.40	6.78			.05
DEC 20	48.0	6.6	1.89		23.05		.	.15	5.01			.04

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	12	12	0	.	.	.	.	.
	STANDARD PLATE CNT MF	.	.	12	2	7	0	4	2
	TOTAL COLIFORM MF	12	10	0	12	0	7	4	0
	T COLIFORM BCKGRD MF	12	12	0	12	1	0	4	1
*TOTAL SCAN BACTERIOLOGICAL		36	34	0	36	3	0	12	3
*TOTAL GROUP BACTERIOLOGICAL		36	34	0	36	3	0	12	3

CHEMISTRY (FLD)	FLD CHLORINE (COMB)	.	.	12	12	0	12	0	8
	FLD CHLORINE FREE	.	.	12	12	0	12	0	8
	FLD CHLORINE (TOTAL)	.	.	12	12	0	12	0	8
	FLD PH	11	11	0	12	12	0	8	8
	FLD TEMPERATURE	8	7	0	12	12	0	8	8
	FLD TURBIDITY	11	11	0	12	12	0	8	8
*TOTAL SCAN CHEMISTRY (FLD)		30	29	0	72	72	0	48	48

CHEMISTRY (LAB)	ALKALINITY	12	12	0	12	12	0	14	8
	CALCIUM	12	12	0	12	12	0	14	8
	CYANIDE	12	0	0	12	0	0	7	0
	CHLORIDE	12	12	0	12	12	0	14	8
	COLOUR	12	2	10	12	0	6	14	8
CONDUCTIVITY		12	12	0	12	12	0	14	8

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2			
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHEMISTRY (LAB)													
	FLUORIDE	12	11	1	12	12	0	14	14	0	8	8	0
	HARDNESS	12	12	0	12	12	0	14	14	0	8	8	0
	IONCAL	12	12	0	12	12	0	14	13	0	8	8	0
	LANGELIERS INDEX	12	12	0	4	4	0	6	6	0	2	2	0
	MAGNESIUM	12	12	0	12	12	0	14	14	0	8	8	0
	SODIUM	12	12	0	12	12	0	14	14	0	8	8	0
	AMMONIUM TOTAL	12	11	0	12	2	3	14	1	3	8	0	1
	NITRITE	12	11	1	12	2	4	14	5	6	8	0	6
	TOTAL NITRATES	12	12	0	12	12	0	14	14	0	8	8	0
	NITROGEN TOT KJELD	12	12	0	12	12	0	14	14	0	8	7	1
	PH	12	12	0	12	12	0	14	14	0	8	8	0
	PHOSPHORUS FIL REACT	12	0	8	12	12	0	-	-	-	-	-	-
	PHOSPHORUS TOTAL	12	10	2	12	3	9	-	-	-	-	-	-
	SULPHATE	12	12	0	12	12	0	13	13	0	8	8	0
	TURBIDITY	12	12	0	12	11	1	13	12	1	8	6	2
*TOTAL SCAN CHEMISTRY (LAB)		252	213	22	244	190	23	249	204	22	142	111	16
METALS													
	SILVER	12	0	1	12	0	6	14	0	2	8	0	0
	ALUMINIUM	12	12	0	12	12	0	14	14	0	8	8	0
	ARSENIC	12	5	7	12	5	7	14	6	8	8	4	4
	BARIUM	12	12	0	12	12	0	14	14	0	8	8	0
	BORON	12	8	4	12	9	3	14	12	2	8	6	2
	BERYLLIUM	12	0	9	12	0	7	14	0	4	8	0	4

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2			
		TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE		
METALS	CADMIUM	12	0	3	12	0	4	14	1	7	8	0	2
	COBALT	12	0	11	12	0	10	14	0	12	8	0	6
	CHROMIUM	12	8	2	12	7	3	14	9	3	8	3	5
	COPPER	12	12	0	12	1	11	14	14	0	8	8	0
	IRON	12	12	0	12	0	6	14	1	13	8	0	6
	MERCURY	11	0	4	12	0	4	7	0	0	4	0	0
	MANGANESE	12	12	0	12	3	9	14	14	0	8	4	4
	MOLYBDENUM	12	11	1	12	12	0	14	14	0	8	8	0
	NICKEL	12	0	11	12	1	9	14	4	8	8	1	5
	LEAD	12	11	1	12	2	10	14	13	1	8	6	2
	ANTIMONY	12	11	1	12	11	1	14	12	2	8	8	0
	SELENIUM	12	0	6	12	0	9	14	0	10	8	0	5
	STRONTIUM	12	12	0	12	12	0	14	14	0	8	8	0
	TITANIUM	12	11	1	12	11	1	14	12	2	8	8	0
	THALLIUM	12	0	7	12	0	2	14	0	1	8	0	1
	URANIUM	12	11	1	12	4	8	14	2	9	8	0	6
	VANADIUM	12	6	6	12	4	8	14	1	13	8	4	4
	ZINC	12	12	0	12	10	2	14	14	0	8	8	0
*TOTAL SCAN METALS		287	166	76	288	116	120	329	171	97	188	92	56
*TOTAL GROUP INORGANIC & PHYSICAL		569	408	98	604	378	143	649	446	119	378	251	72
CHLOROCARBOCATICS	HEXACHLOROBUTADIENE	12	0	0	11	0	0	7	0	0	4	0	0
	123 TRICHLOROBENZENE	11	0	0	11	0	0	7	0	0	4	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		RAU		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL
CHLOROBROMATICS	1234 T-CHLOROBENZENE	12	0	0	11	0	0	7	0	0	4
	1235 T-CHLOROBENZENE	12	0	0	11	0	0	7	0	0	4
	124 TRICHLOROBENZENE	12	0	0	11	0	0	7	0	0	4
	1245 T-CHLOROBENZENE	12	0	0	11	0	0	7	0	0	4
	135 TRICHLOROBENZENE	12	0	0	11	0	0	7	0	0	4
	HCB	12	0	0	11	0	0	7	0	0	4
	HEXACHLOROETHANE	12	0	0	11	0	0	7	0	0	4
	OCTACHLOROSTYRENE	12	0	0	11	0	0	7	0	0	4
	PENTACHLOROBENZENE	12	0	0	11	0	0	7	0	0	4
	236 TRICHLOROTOLUENE	12	0	0	11	0	0	7	0	0	4
*TOTAL SCAN CHLOROBROMATICS	245 TRICHLOROTOLUENE	12	0	0	11	0	0	7	0	0	4
	26A TRICHLOROTOLUENE	12	0	0	11	0	0	7	0	0	4
		167	0	0	154	0	0	98	0	0	56
CHLOROPHENOLS	234 TRICHLOROPHENOL	1	0	0	2	0	0	.	.	.	.
	2345 T-CHLOROPHENOL	1	0	0	2	0	0	.	.	.	.
	2356 T-CHLOROPHENOL	1	0	0	2	0	0	.	.	.	.
	245-TRICHLOROPHENOL	1	0	0	2	0	0	.	.	.	.
	246-TRICHLOROPHENOL	1	0	0	2	0	0	.	.	.	.
	PENTACHLOROPHENOL	1	0	0	2	0	0	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		6	0	0	12	0	0	0	0	0	0

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1969)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL
PAN	PHENANTHRENE	12	0	0	12	0	0	0	0	0	0
	ANTHRACENE	12	0	0	12	0	0	0	0	0	0
	FLUORANTHENE	12	0	0	12	0	0	0	0	0	0
	PYRENE	12	0	0	12	0	0	0	0	0	0
	BENZO(A)ANTHRACENE	12	0	0	12	0	0	0	0	0	0
	CHRYSENE	12	0	0	12	0	0	0	0	0	0
	DIMETH. BENZ(A)ANTHR	6	0	0	6	0	0	0	0	0	0
	BENZO(E) PYRENE	12	0	0	12	0	0	0	0	0	0
	BENZO(B) FLUORANTHENE	12	0	0	12	0	0	0	0	0	0
	PERYLENE	12	0	0	12	0	0	0	0	0	0
	BENZO(K) FLUORANTHENE	12	0	0	12	0	0	0	0	0	0
	BENZO(A) PYRENE	8	0	0	6	0	0	0	0	0	0
	BENZO(G,H,I) PERYLENE	12	0	0	12	0	0	0	0	0	0
	DIBENZO(A,H) ANTHRAC	12	0	0	12	0	0	0	0	0	0
	INDENO(1,2,3-C,D) PY	12	0	0	12	0	0	0	0	0	0
	BENZO(B) CHRYSENE	12	0	0	12	0	0	0	0	0	0
	CORONENE	12	0	0	12	0	0	0	0	0	0
*TOTAL SCAN PAN		194	0	0	192	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	12	0	0	11	0	0	7	0	0	4
	ALPHA BHC	12	0	6	11	0	1	7	0	1	4
	BETA BHC	12	0	0	11	0	0	7	0	0	4
	LINDANE	12	0	0	11	0	0	7	0	0	4

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		TOTAL	RAW	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
PESTICIDES & PCB	ALPHA CHLORDANE	12	0	0	11	0	0	0	0
	GAMMA CHLORDANE	12	0	0	11	0	0	0	0
	DIELDRIN	12	0	0	11	0	0	0	0
	METHOXYCHLOR	12	0	0	11	0	0	0	0
	ENDOSULFAN I	12	0	0	11	0	0	0	0
	ENDOSULFAN II	12	0	0	11	0	0	0	0
	ENDRIN	12	0	0	11	0	0	0	0
	ENDOSULFAN SULPHATE	12	0	0	11	0	0	0	0
	HEPTACHLOR EPOXIDE	12	0	0	11	0	0	0	0
	HEPTACHLOR	12	0	0	11	0	0	0	0
	MIREX	12	0	0	11	0	0	0	0
	OXYCHLORDANE	12	0	0	11	0	0	0	0
	OPDGT	12	0	0	11	0	0	0	0
	PCB	12	0	0	11	0	0	0	0
	DDO	12	0	0	11	0	0	0	0
	PPDDE	12	0	0	11	0	0	0	0
	PPDGT	12	0	0	11	0	0	0	0
	AMETRINE	11	0	0	12	0	0	0	0
	ATRAZINE	11	0	1	12	0	0	0	0
	ATRAZONE	11	0	0	12	0	0	0	0
	CYMAZINE (BLADEX)	11	0	0	12	0	0	0	0
	D-ETHYL ATRAZINE	11	0	0	12	0	0	0	0
	D-ETHYL SIMAZINE	11	0	0	12	0	0	0	0
	PROMETONE	11	0	0	12	0	0	0	0
	PROPACINE	11	0	0	12	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		TREATED		SITE 1		SITE 2					
		TOTAL	RAW	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE		
PESTICIDES & PCB													
	PROMETHINE	11	0	0	12	0	0	3	0	0	1	0	0
	METRIBUZIN (SENCOR)	11	0	0	12	0	0	3	0	0	1	0	0
	SIMAZINE	11	0	0	12	0	0	3	0	0	1	0	0
	ALACHLOR (LASSO)	11	0	0	12	0	0	3	0	0	1	0	0
	METOLACHLOR	11	0	0	12	0	0	3	0	0	1	0	0
*TOTAL SCAN PESTICIDES & PCB													
		395	0	7	387	0	1	186	0	1	97	0	0
PHENOLICS													
	PHENOLICS	12	10	2	12	5	3	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS													
		12	10	2	12	5	3	0	0	0	0	0	0
SPECIFIC PESTICIDES													
	TOLAPHENE	12	0	0	11	0	0	7	0	0	4	0	0
	2,4,5-T	1	0	0	2	0	0	.	.	.	.	.	.
	2,4-D	1	0	0	2	0	0	.	.	.	.	.	.
	2,4-DB	1	0	0	2	0	0	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	1	0	0	2	0	0	.	.	.	.	.	.
	DICAMBA	1	0	0	2	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.
	SILVEX	1	0	0	2	0	0	.	.	.	.	.	.
	DIAZINON	2	0	0	1	0	0	.	.	.	.	.	.
	DICHLOROVOS	2	0	0	1	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	2	0	0	1	0	0	.	.	.	.	.	.

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL POSITIVE	TRACE	TOTAL POSITIVE	TRACE	TOTAL POSITIVE	TRACE	TOTAL POSITIVE	TRACE		
SPECIFIC PESTICIDES											
	ETHION	2	0	0	0	1	0				
	AZINPHOS-METHYL	0	0	0	0	0	0				
	MALATHION	2	0	0	0	1	0				
	MEVINPHOS	2	0	0	0	1	0				
	METHYL PARATHION	2	0	0	0	1	0				
	METHYLTRITHION	2	0	0	0	1	0				
	PARATHION	2	0	0	0	1	0				
	PHORATE	2	0	0	0	1	0				
	RELDAN	2	0	0	0	1	0				
	RONNEL	2	0	0	0	1	0				
	AMINOCARB	0	0	0	0	1	0				
	BENKYL	1	0	0	0	0	0				
	BUX	0	0	0	0	1	0				
	CARBOFURAN	2	0	0	0	0	0				
	CICP	2	0	0	0	2	0				
	DIALATE	2	0	0	0	2	0				
	EPTAN	2	0	0	0	2	0				
	IPC	2	0	0	0	2	0				
	PROPOXUR	2	0	0	0	2	0				
	CARBARYL	2	0	0	0	2	0				
	BUTYLATE	2	0	0	0	2	0				
*TOTAL SCAN SPECIFIC PESTICIDES		59	0	0	0	52	0	7	0	4	0
VOLATILES											
	BENZENE	11	0	3	12	0	0	7	0	4	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		TREATED		SITE 1		SITE 2				
		TOTAL	RAW	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE				
VOLATILES												
	TOLUENE	11	0	2	12	0	5	7	0	4	0	3
	ETHYLBENZENE	11	0	2	12	0	5	7	0	4	0	2
	P-XYLENE	11	0	1	12	0	0	7	0	0	4	0
	M-XYLENE	11	0	3	12	0	0	7	0	0	4	0
	O-XYLENE	11	0	4	12	0	1	7	0	0	4	0
	STYRENE	11	0	2	12	0	2	7	0	2	4	0
	1,1 DICHLOROETHYLENE	11	0	0	12	0	0	7	0	0	4	0
	METHYLENE CHLORIDE	11	0	0	12	0	0	7	0	0	4	0
	1,1,2 DICHLOROETHYLENE	11	0	0	12	0	0	7	0	0	4	0
	1,1 DICHLOROETHANE	11	0	0	12	0	0	7	0	0	4	0
	CHLOROFORM	11	0	2	12	12	0	7	7	0	4	0
	111, TRICHLOROETHANE	11	0	0	12	0	5	7	0	2	4	0
	1,2 DICHLOROETHANE	11	0	0	12	0	0	7	0	0	4	0
	CARBON TETRACHLORIDE	11	0	0	12	0	0	7	0	0	4	0
	1,2 DICHLOROPROPANE	11	0	0	12	0	0	7	0	0	4	0
	TRICHLOROETHYLENE	11	0	0	12	0	0	7	0	0	4	0
	DICHLOROBROMOMETHANE	11	0	1	12	12	0	7	7	0	4	0
	112 TRICHLOROETHANE	11	0	0	12	0	0	7	0	0	4	0
	CHLORO-DIBROMOMETHANE	11	0	0	12	12	0	7	7	0	4	0
	T-CHLOROETHYLENE	11	0	6	12	0	5	7	0	1	4	0
	BROMOFORM	11	0	0	12	0	11	7	0	7	4	0
	1122 T-CHLOROETHANE	11	0	0	12	0	0	7	0	0	4	0
	CHLOROBENZENE	11	0	0	12	0	0	7	0	0	4	0
	1,4 DICHLOROBENZENE	11	0	0	12	0	0	7	0	0	4	0
	1,3 DICHLOROBENZENE	11	0	0	12	0	0	7	0	0	4	0

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		TOTAL	RAW	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL
VOLATILES	1,2 DICHLOROBENZENE	11	0	0	12	0	0	0	4
	ETHYLENE DIBROMIDE	11	0	0	12	0	0	0	0
	TOTL TRINALOINETHAMES	11	0	0	12	12	0	7	4
*TOTAL SCAN VOLATILES		319	0	26	348	48	34	203	28
*TOTAL GROUP ORGANIC		1152	10	35	1157	53	38	494	28
TOTAL		1757	452	133	1797	434	181	1164	474
									136
									663
									270
									86

KEY TO TABLE 5 and 6

- A** **ONTARIO DRINKING WATER OBJECTIVES (ODWO)**
1. Maximum Acceptable Concentration (MAC)
 - 1+. MAC for Total Trihalomethanes
 - 1*. MAC for Bacteriological Analyses
- Poor water quality is indicated when :
- total coliform counts $> 0 < 5$
 - P/A Bottle Test is present after 48 hours
 - Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
 - Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Faecal Streptococcus group should not be detected in any sample
 - Standard Plate Count should not exceed 500 organisms per ml at 35 °C within 48 hours
2. Interim Maximum Acceptable Concentration (IMAC)
 3. Maximum Desirable Concentration (MDC)
 4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness > 200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.
- B** **HEALTH & WELFARE CANADA (H&W)**
1. Maximum Acceptable Concentration (MAC)
 2. Proposed MAC
 3. Interim MAC
 4. Aesthetic Objective (AO) (for xylenes, a total)
- C** **WORLD HEALTH ORGANIZATION (WHO)**
1. Guideline Value (GV)
 2. Tentative GV
 3. Aesthetic GV
- D** **US ENVIRONMENTAL PROTECTION AGENCY (EPA)**
1. Maximum Contaminant Level (MCL)
 2. Suggested No-Adverse Effect Level (SNAEL)
 3. Lifetime Health Advisory
 4. EPA Ambient Water Quality Criteria
 5. Maximum Contaminant Level Goal (MCLG)
- F** **EUROPEAN ECONOMIC COMMUNITY (EEC)**
1. Health Related Guideline Level
 2. Aesthetic Guideline Level
 3. Maximum Admissable Concentration (MADC)
- G** **CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE**
- H** **USSR MAXIMUM PERMISSIBLE CONCENTRATION**
- I** **NEW YORK STATE AMBIENT WATER GUIDELINE**
- N/A** **NONE AVAILABLE**

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:

1. Exclude the low-level data because of this uncertainty factor. Studies of long-term environmental trends and modelling may however, be adversely affected by the exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported with the code "<T". Results qualified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. The average of such data however, is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!IV	No Data: Inverted Septum
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded

!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT					DISTRIBUTION SYSTEM		
RAW		TREATED	SITE 1		SITE 2		
			STANDING	FREE FLOW	STANDING	FREE FLOW	

BACTERIOLOGICAL							
FECAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 0 (A1)		
JAN	1420 T24	.	.	.	.	.	.
FEB	520 T24	.	.	.	.	.	.
MAR	220 T24	.	.	.	.	.	.
APR	110 T24	.	.	.	.	.	.
MAY	77	.	.	.	.	.	.
JUN	4	.	.	.	.	.	.
JUL	28 A3C	.	.	.	.	.	.
AUG	200	.	.	.	.	.	.
SEP	188 A3C	.	.	.	.	.	.
OCT	60	.	.	.	.	.	.
NOV	504	.	.	.	.	.	.
DEC	410	.	.	.	.	.	.

STANDRD PLATE CNT MF ()			DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)		
JAN	.	1 <u>	.	.	.	.	.
FEB	.	1 <u>	.	.	.	.	.
MAR	.	1 <u>	.	.	.	.	.
APR	.	12	.	.	.	.	.
MAY	.	1 <u>	.	0 <u>	.	.	.
JUN	.	0 <u>	.	1 <u>	.	0 <u>	.
JUL	.	1 <u>	.	0 <u>	.	.	.
AUG	.	0 <u>	.	6 <u>	.	46	.
SEP	.	50	.	7 <u>	.	12	.
OCT	.	3 <u>	.	10 <u>	.	.	.
NOV	.	1 <u>	.	.	.	2 <u>	.
DEC	.	0 <u>	.	1 <u>	.	.	.

TOTAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)		
JAN	79000 A3C	0 T24	.	.	.	.	.
FEB	6400 A3C	0 T24	.	.	.	.	.
MAR	2900 T24	0	.	.	.	.	.
APR	4200 A3C	0	.	.	.	.	.
MAY	1200	0	.	0	.	.	.
JUN	600 <u>	0	.	0	.	0	.
JUL	100 <u>	0	.	0	.	.	.
AUG	1500 A3C	0	.	0	.	0	.
SEP	3600 A3C	0	.	0	.	0	.
OCT	1200	0	.	0	.	.	.
NOV	73000 A3C	0	.	.	.	0	.
DEC	12000	0	.	0	.	.	.

T COLIFORM BCKGRD MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = N/A		
JAN	00000 A3C	0 T24	.	.	.	.	.
FEB	17000 A3C	0 T24	.	.	.	.	.
MAR	13000 T24	0	.	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	10000 A3C	0	.	.	.	.
MAY	7200	0	.	0	.	.
JUN	39000 A3C	0	.	0	.	0
JUL	48000 >	0	.	0	.	.
AUG	86000 A3C	0	.	0	.	0
SEP	60000 A3C	1	.	0	.	0
OCT	20000	0	.	0	.	.
NOV	00000 A3C	0	.	.	.	1
DEC	64000	0	.	0	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)						
FLD CHLORINE (COMB) ()			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.210	.	.	.	.
FEB	.	.220	.	.	.	.
MAR	.	.140	.	.	.	.
APR	.	.210	.	.	.	.
MAY	.	.070	.	.	.	.
JUN	.	.120	.200	.200	.400	.200
JUL	.	.260	.200	.200	.	.
AUG	.	.250	.200	.200	.150	.100
SEP	.	.280	.200	.200	.150	.050
OCT	.	.220	.200	.200	.	.
NOV	.	.200	.	.	.530	.200
DEC	.	.170	.200	.200	.	.
FLD CHLORINE FREE ()			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.750	.	.	.	.
FEB	.	.780	.	.	.	.
MAR	.	.800	.	.	.	.
APR	.	.850	.	.	.	.
MAY	.	.830	.	.	.	.
JUN	.	.800	.100	.300	.100	.500
JUL	.	.820	.100	.300	.	.
AUG	.	.710	.100	.300	.250	.300
SEP	.	.550	.100	.300	.100	.250
OCT	.	.860	.100	.300	.	.
NOV	.	.800	.	.	.820	.520
DEC	.	.780	.100	.700	.	.
FLD CHLORINE (TOTAL) ()			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.960	.	.	.	.
FEB	.	1.000	.	.	.	.
MAR	.	.940	.	.	.	.
APR	.	1.060	.	.	.	.
MAY	.	.900	.	.	.	.
JUN	.	.920	.300	.500	.500	.700
JUL	.	1.080	.300	.500	.	.
AUG	.	.960	.300	.500	.400	.400
SEP	.	.830	.300	.500	.250	.300
OCT	.	1.080	.300	.500	.	.
NOV	.	1.000	.	.	1.350	.700
DEC	.	.950	.300	.900	.	.
FLD PH (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	8.300	7.050	.	.	.	.
FEB	8.300	7.150	.	.	.	.
MAR	8.300	7.200	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	7.950	7.000	.	.	.	.
MAY	8.300	7.000	.	.	.	.
JUN	.	7.000	7.600	7.400	7.400	7.400
JUL	8.100	7.100	7.600	7.600	.	.
AUG	8.200	7.000	7.400	7.400	7.300	7.400
SEP	8.200	6.900	7.300	7.200	7.000	7.200
OCT	8.200	7.000	7.600	7.200	.	.
NOV	8.000	6.900	.	.	7.100	7.200
DEC	7.900	7.000	7.200	7.200	.	.

FLD TEMPERATURE ()			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)	
JAN	.	2.000	.	.	.	.
FEB	.	2.000	.	.	.	.
MAR	.	3.000	.	.	.	.
APR	6.000	8.000	.	.	.	.
MAY	10.000	12.000	.	.	.	.
JUN	.	19.000	15.000	16.000	14.500	14.000
JUL	23.000	24.000	17.000	18.000	.	.
AUG	23.000	24.000	19.000	21.000	24.000	24.000
SEP	19.000	20.000	18.000	19.000	20.000	21.000
OCT	12.000	15.000	13.000	14.000	.	.
NOV	3.000	6.000	.	.	15.000	5.000
DEC	.000	2.000	6.000	6.000	.	.

FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)	
JAN	8.000	.070	.	.	.	.
FEB	5.400	.070	.	.	.	.
MAR	11.600	.100	.	.	.	.
APR	5.800	.080	.	.	.	.
MAY	14.400	.090	.	.	.	.
JUN	.	.200	.	.300	.100	.110
JUL	7.200	.110	.260	.190	.	.
AUG	7.500	.130	.260	.240	.210	.140
SEP	15.300	.080	.210	.140	.140	.130
OCT	3.500	.080	.180	.100	.	.
NOV	19.200	.060	.	.	.190	.140
DEC	1.800	.040	.240	.230	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)	
ALKALINITY (MG/L)						
JAN	90.200	81.400	.	.	.	.
FEB	94.200	83.600	.	.	.	.
MAR	84.000	75.800	.	.	.	.
APR	85.900	74.700	.	.	.	.
MAY	84.500	75.600	75.100	75.100	.	.
JUN	84.900	72.700	71.900	73.100	73.200	73.000
JUL	86.100	76.000	77.100	77.400	.	.
AUG	84.500	72.700	73.700	73.500	75.500	76.000
SEP	82.900	64.800	65.700	68.400	68.600	71.100
OCT	86.600	74.500	74.300	75.300	.	.
NOV	89.900	71.100	.	.	73.900	74.000
DEC	90.700	78.000	78.600	78.700	.	.
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)	
JAN	32.000	32.000	.	.	.	.
FEB	35.000	33.800	.	.	.	.
MAR	29.600	30.800	.	.	.	.
APR	31.000	32.000	.	.	.	.
MAY	29.200	30.400	29.400	29.800	.	.
JUN	28.800	31.400	30.200	30.600	31.200	31.000
JUL	29.600	29.200	29.200	29.200	.	.
AUG	28.200	28.400	29.400	29.400	30.200	30.800
SEP	31.000	29.600	29.800	29.400	31.600	31.600
OCT	30.600	29.000	29.400	30.200	.	.
NOV	30.800	32.000	.	.	33.400	33.400
DEC	30.200	30.400	30.800	31.000	.	.
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)	
JAN	15.600	16.100	.	.	.	.
FEB	16.900	17.400	.	.	.	.
MAR	12.700	15.200	.	.	.	.
APR	11.300	15.000	.	.	.	.
MAY	11.300	13.200	12.600	12.600	.	.
JUN	10.000	14.200	13.000	13.500	12.600	12.600
JUL	11.200	12.500	12.600	12.500	.	.
AUG	14.100	18.300	14.900	14.600	13.600	14.400
SEP	10.500	13.200	13.900	13.500	14.000	13.800
OCT	10.100	11.700	11.800	11.700	.	.
NOV	12.300	14.300	.	.	13.900	13.800
DEC	11.400	13.400	13.500	13.200	.	.
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)	
JAN	1.500 <T	BOL	.	.	.	.
FEB	2.500	1.000 <T	.	.	.	.
MAR	2.000 <T	.500 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	1.500 <T	.500 <T	.	.	.	.
MAY	1.000 <T	BDL	BDL	BDL	.	.
JUN	2.000 <T	.500 <T	1.000 <T	1.000 <T	.500 <T	1.000 <T
JUL	2.500	.500 <T	1.000 <T	.500 <T	.	.
AUG	1.500 <T	BDL	1.000 <T	1.500 <T	.500 <T	BDL
SEP	2.000 <T	BDL	1.000 <T	1.500 <T	.500 <T	.500 <T
OCT	1.500 <T	BDL	.500 <T	.500 <T	.	.
NOV	2.000 <T	BDL	.	.	.500 <T	BDL
DEC	1.500 <T	.500 <T	1.000 <T	1.500 <T	.	.
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)	
JAN	266	270	.	.	.	.
FEB	285	283	.	.	.	.
MAR	249	259	.	.	.	.
APR	248	269	.	.	.	.
MAY	240	252	246	246	.	.
JUN	236	265	253	259	255	255
JUL	239	246	246	247	.	.
AUG	258	242	249	246	248	251
SEP	237	244	247	252	252	257
OCT	240	246	250	249	.	.
NOV	254	273	.	.	272	271
DEC	252	261	263	261	.	.
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)	
JAN	.080	1.020	.	.	.	.
FEB	.080	.980	.	.	.	.
MAR	.100	.940	.	.	.	.
APR	.080	.920	.	.	.	.
MAY	.080	.960	.900	.900	.	.
JUN	.040 <T	.620	1.100	1.160	1.120	1.120
JUL	.100	1.300	1.160	1.260	.	.
AUG	.100	1.360	1.260	1.240	1.260	1.280
SEP	.100	1.280	1.160	1.220	1.240	1.200
OCT	.080	1.300	1.220	1.220	.	.
NOV	.120	1.260	.	.	1.120	1.060
DEC	.100	1.100	.960	.960	.	.
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)	
JAN	113.000	114.000	.	.	.	.
FEB	123.000	119.000	.	.	.	.
MAR	107.000	108.000	.	.	.	.
APR	112.000	117.000	.	.	.	.
MAY	105.000	108.000	105.000	106.000	.	.
JUN	104.000	112.000	107.000	108.000	108.000	109.000
JUL	107.000	106.000	106.000	105.000	.	.
AUG	102.000	102.000	105.000	105.000	107.000	108.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT					DISTRIBUTION SYSTEM	
RAW	TREATED	SITE 1		SITE 2		
		STANDING	FREE FLOW	STANDING	FREE FLOW	
SEP	110.000	107.000	108.000	107.000	111.000	111.000
OCT	110.000	104.000	105.000	107.000	.	.
NOV	110.000	115.000	.	.	117.000	116.000
DEC	107.000	108.000	109.000	109.000	.	.
IONCAL (DMNSLESS)		DET'M LIMIT = N/A		GUIDELINE = N/A		
JAN	.076	4.075	.	.	.	.
FEB	1.726	2.175	.	.	.	.
MAR	.519	1.699	.	.	.	.
APR	3.643	5.860	.	.	.	.
MAY	.295	1.033	.419	.000 NAF	.	.
JUN	.903	1.760	3.517	1.612	3.541	3.476
JUL	.012	1.542	.558	.111	.	.
AUG	2.239	5.075	1.198	1.427	.074	1.250
SEP	7.907	4.026	5.089	1.999	4.516	2.252
OCT	1.761	.655	.210	.890	.	.
NOV	1.365	1.455	.	.	2.937	2.479
DEC	3.202	.438	1.638	1.091	.	.
LANGELIERS INDEX (DMNSLESS)		DET'M LIMIT = N/A		GUIDELINE = N/A		
JAN	.175	-.171	.	.	.	.
FEB	.215	-.001	.	.	.	.
MAR	.166	-.115	.	.	.	.
APR	.157	.192	.	.	.	.
MAY	.027	.131	.096	.112 NAF	.	.
JUN	.044	-.227	-.224	-.103	-.133	-.137
JUL	.201	-.182	-.055	-.104	.	.
AUG	.154	-.032	.017	-.033	.019	.079
SEP	.125	-.104	-.247	-.187	-.154	-.111
OCT	.148	.047	-.020	.088	.	.
NOV	.161	-.491	.	.	-.126	-.195
DEC	.317	.101	.199	.263	.	.
MAGNESIUM (MG/L)		DET'M LIMIT = .050		GUIDELINE = 30 (F2)		
JAN	8.000	8.400	.	.	.	.
FEB	8.700	8.500	.	.	.	.
MAR	8.000	7.700	.	.	.	.
APR	8.400	8.900	.	.	.	.
MAY	7.700	7.900	7.600	7.600	.	.
JUN	7.800	8.200	7.700	7.800	7.400	7.600
JUL	8.100	8.000	7.900	7.900	.	.
AUG	7.700	7.500	7.700	7.600	7.500	7.600
SEP	8.100	7.900	8.100	8.100	7.800	7.700
OCT	8.100	7.700	7.700	7.600	.	.
NOV	8.100	8.400	.	.	8.200	8.000
DEC	7.800	7.900	7.800	7.700	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)	
JAN	10.000	8.800	.	.	.	.
FEB	9.600	9.600	.	.	.	.
MAR	7.600	8.000	.	.	.	.
APR	6.800	8.400	.	.	.	.
MAY	6.600	6.800	6.600	6.600	.	.
JUN	6.000	7.200	7.000	7.000	7.000	6.800
JUL	6.200	6.600	6.600	6.400	.	.
AUG	11.400	7.800	8.000	8.000	7.200	7.600
SEP	7.000	6.600	7.000	7.000	6.600	6.800
OCT	5.400	6.400	6.600	6.400	.	.
NOV	7.400	7.800	.	.	7.600	7.600
DEC	7.200	7.800	7.600	7.400	.	.
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)	
JAN	.046	.120	.	.	.	.
FEB	.028	.024	.	.	.	.
MAR	.016	BDL	.	.	.	.
APR	.020	.006 <T	.	.	.	.
MAY	.020	.004 <T	.004 <T	.004 <T	.	.
JUN	.024	BDL	.006 <T	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	.	.
AUG	.026	.002 <T	BDL	BDL	BDL	.006 <T
SEP	.012	BDL	.002	BDL	BDL	BDL
OCT	.022	BDL	BDL	BDL	.	.
NOV	.014	BDL	.	.	BDL	BDL
DEC	.040	BDL	BDL	BDL	.	.
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)	
JAN	.009	.083	.	.	.	.
FEB	.008	BDL	.	.	.	.
MAR	.008	BDL	.	.	.	.
APR	.008	BDL	.	.	.	.
MAY	.013	.005	.005	.007	.	.
JUN	.009	BDL	BDL	BDL	BDL	BDL
JUL	.002 <T	.003 <T	.005	.004 <T	.	.
AUG	.014	.004 <T	.005	.004 <T	.004 <T	.004 <T
SEP	.007	BDL	.002	.001 <T	.002 <T	.001 <T
OCT	.005	.002 <T	.001 <T	BDL	.	.
NOV	.022	.004 <T	.	.	.003 <T	.001 <T
DEC	.009	BDL	.002 <T	.001 <T	.	.
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)	
JAN	.595	.135	.	.	.	.
FEB	1.060	.930	.	.	.	.
MAR	.415	.420	.	.	.	.
APR	.590	.725	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.405	.545	.415	.410	.	.
JUN	.370	.840	.360	.500	.375	.390
JUL	.425	.410	.400	.400	.	.
AUG	.195	.220	.215	.210	.220	.225
SEP	.195	.175	.165	.160	.165	.165
OCT	.270	.275	.275	.265	.	.
NOV	.430	.455	.	.	.475	.420
DEC	.370	.380	.405	.385	.	.
NITROGEN TOT KJELD (MG/L)			DET'M LIMIT = .020		GUIDELINE = N/A	
JAN	.340	.260	.	.	.	.
FEB	.270	.150	.	.	.	.
MAR	.600	.130	.	.	.	.
APR	.230	.120	.	.	.	.
MAY	.240	.120	.120	.150	.	.
JUN	.260	.130	.120	.110	.160	.160
JUL	.250	.180	.160	.140	.	.
AUG	.270	.130	.130	.130	.160	.130
SEP	.270	.120	.210	.120	.130	.120
OCT	.250	.110	.150	.140	.	.
NOV	.270	.100	.	.	.120	.080 <T
DEC	.230	.130	.280	.130	.	.
PH (DIMENSIONLESS)			DET'M LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	8.140	7.840	.	.	.	.
FEB	8.130	7.980	.	.	.	.
MAR	8.190	7.940	.	.	.	.
APR	8.150	8.240	.	.	.	.
MAY	8.050	8.190	8.170	8.180	.	.
JUN	8.070	7.840	7.860	7.970	7.930	7.930
JUL	8.210	7.890	8.010	7.960	.	.
AUG	8.200	8.070	8.100	8.050	8.080	8.130
SEP	8.130	8.030	7.880	7.930	7.930	7.960
OCT	8.140	8.130	8.060	8.150	.	.
NOV	8.140	7.580	.	.	7.910	7.840
DEC	8.300	8.150	8.240	8.300	.	.
PHOSPHORUS FIL REACT (MG/L)			DET'M LIMIT = .0005		GUIDELINE = N/A	
JAN	.002 <T	.003	.	.	.	.
FEB	.002 <T	.004	.	.	.	.
MAR	.001 <T	.003	.	.	.	.
APR	.000 <T	.003	.	.	.	.
MAY	BDL	.002	.	.	.	.
JUN	.001 <T	.003	.	.	.	.
JUL	BDL	.005	.	.	.	.
AUG	BDL	.005	.	.	.	.
SEP	.001 <T	.008	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	.001 <T	.005	.	.	.	.
NOV	.001 <T	.005	.	.	.	.
DEC	BOL	.006	.	.	.	.
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)	
JAN	.014	.006 <T	.	.	.	.
FEB	.014	.007 <T	.	.	.	.
MAR	.017	.008 <T	.	.	.	.
APR	.009 <T	.006 <T	.	.	.	.
MAY	.018	.007 <T	.	.	.	.
JUN	.026	.020	.	.	.	.
JUL	.014	.007 <T	.	.	.	.
AUG	.018	.012	.	.	.	.
SEP	.022	.013	.	.	.	.
OCT	.011	.008 <T	.	.	.	.
NOV	.024	.007 <T	.	.	.	.
DEC	.008 <T	.009 <T	.	.	.	.
SULPHATE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 500. (A3)	
JAN	19.650	23.220	.	.	.	.
FEB	19.070	24.830	.	.	.	.
MAR	18.560	24.120	.	.	.	.
APR	17.650	27.690	.	.	.	.
MAY	16.760	24.710	24.140	118	.	.
JUN	17.130	28.660	25.580	26.700	25.940	26.050
JUL	16.580	22.320	21.870	22.070	.	.
AUG	18.310	24.420	24.500	24.470	25.280	24.990
SEP	17.590	30.740	29.860	30.280	29.740	30.180
OCT	16.900	24.210	26.150	25.670	.	.
NOV	18.510	35.190	.	.	33.250	33.270
DEC	18.320	26.520	27.300	26.670	.	.
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)	
JAN	7.400	.750	.	.	.	.
FEB	4.400	.420	.	.	.	.
MAR	11.100	.600	.	.	.	.
APR	4.200	.550	.	.	.	.
MAY	12.900	.560	.690	118	.	.
JUN	7.200	.320	.590	.840	.710	.370
JUL	5.000	.460	.300	.390	.	.
AUG	9.300	.600	.680	.580	.640	.440
SEP	15.200	.510	.700	.210 <T	.300	.230 <T
OCT	6.400	.570	.690	.430	.	.
NOV	21.000	.180 <T	.	.	.290	.200 <T
DEC	1.260	.300	.560	.340	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ANHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

		RAW	TREATED	SITE 1		SITE 2	
				STANDING	FREE FLOW	STANDING	FREE FLOW
		METALS					
SILVER (UG/L)		DET'M LIMIT = .020 GUIDELINE = 50. (A1)					
JAN	BDL	.050 <T	.	.	.	.	.
FEB	BDL	BDL	.	.	.	.	.
MAR	BDL	.030 <T	.	.	.	.	.
APR	BDL	.030 <T	.	.	.	.	.
MAY	BDL	.070 <T	.080 <T	BDL	.	.	.
JUN	BDL	.030 <T	BDL	.030 <T	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	.	.	.
AUG	.080 <T	.030 <T	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	.	.	.
NOV	BDL	BDL	.	.	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	.
ALUMINUM (UG/L)		DET'M LIMIT = .050 GUIDELINE = 100. (A4)					
JAN	74.240	34.800	.	.	.	.	.
FEB	71.920	38.280	.	.	.	.	.
MAR	99.760	34.800	.	.	.	.	.
APR	70.760	38.280	.	.	.	.	.
MAY	185.600	70.760	39.440	47.560	.	.	.
JUN	120.000	65.000	52.000	51.000	62.000	62.000	62.000
JUL	93.000	180.000	100.000	120.000	.	.	.
AUG	71.000	140.000	71.000	90.000	110.000	110.000	110.000
SEP	130.000	53.000	47.000	48.000	51.000	49.000	49.000
OCT	91.000	62.000	40.000	41.000	.	.	.
NOV	170.000	22.000	.	.	27.000	24.000	24.000
DEC	38.000	22.000	24.000	21.000	.	.	.
ARSENIC (UG/L)		DET'M LIMIT = 0.050 GUIDELINE = 50.0 (A1)					
JAN	.680 <T	.450 <T	.	.	.	.	.
FEB	1.600	1.500	.	.	.	.	.
MAR	1.100	1.100	.	.	.	.	.
APR	.800 <T	1.100	.	.	.	.	.
MAY	1.900	1.300	1.100	1.100	.	.	.
JUN	1.200	.950 <T	1.100	1.200	1.300	1.200	1.200
JUL	.590 <T	.740 <T	.150 <T	.530 <T	.	.	.
AUG	1.600	1.800	1.400	1.500	1.700	1.500	1.500
SEP	1.000 <T	.860 <T	.470 <T	.750 <T	.640 <T	.730 <T	.730 <T
OCT	.680 <T	.670 <T	.540 <T	.530 <T	.	.	.
NOV	.610 <T	.710 <T	.	.	.700 <T	.770 <T	.770 <T
DEC	.580 <T	.840 <T	.560 <T	.440 <T	.	.	.
BARIUM (UG/L)		DET'M LIMIT = 0.020 GUIDELINE = 1000. (A1)					
JAN	16.000	17.000	.	.	.	.	.
FEB	16.000	17.000	.	.	.	.	.
MAR	16.000	15.000	.	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	16.000	16.000	.	.	.	.
MAY	16.000	16.000	16.000	16.000	.	.
JUN	16.000	19.000	19.000	18.000	19.000	19.000
JUL	18.000	17.000	17.000	17.000	.	.
AUG	18.000	20.000	18.000	18.000	20.000	19.000
SEP	16.000	17.000	18.000	18.000	18.000	18.000
OCT	16.000	16.000	16.000	16.000	.	.
NOV	17.000	16.000	.	.	16.000	16.000
DEC	15.000	16.000	15.000	15.000	.	.
BORON (UG/L)						
DET'N LIMIT = 0.200 GUIDELINE = 5000. (A1)						
JAN	39.000	23.000	.	.	.	.
FEB	70.000	22.000	.	.	.	.
MAR	16.000 <T	20.000 <T	.	.	.	.
APR	33.000	45.000	.	.	.	.
MAY	54.000	20.000 <T	35.000	18.000 <T	.	.
JUN	35.000	26.000	26.000	30.000	30.000	21.000
JUL	20.000 <T	22.000	24.000	23.000	.	.
AUG	46.000	45.000	43.000	30.000	42.000	41.000
SEP	39.000	33.000	36.000	34.000	19.000 <T	19.000 <T
OCT	25.000	27.000	34.000	21.000	.	.
NOV	20.000 <T	23.000	.	.	22.000	21.000
DEC	16.000 <T	19.000 <T	33.000	20.000 <T	.	.
BERYLLIUM (UG/L)						
DET'N LIMIT = 0.010 GUIDELINE = N/A						
JAN	.120 <T	.060 <T	.	.	.	.
FEB	.080 <T	BDL	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	BDL	.160 <T	.	.	.	.
MAY	.150 <T	BDL	BDL	BDL	.	.
JUN	.150 <T	BDL	BDL	BDL	.060 <T	BDL
JUL	.120 <T	.030 <T	BDL	BDL	.	.
AUG	.050 <T	.100 <T	.050 <T	BDL	BDL	.020 <T
SEP	.040 <T	.040 <T	BDL	.040 <T	BDL	BDL
OCT	.040 <T	.050 <T	.030 <T	.020 <T	.	.
NOV	.020 <T	.020 <T	.	.	.060 <T	.030 <T
DEC	BDL	BDL	BDL	BDL	.	.
CADMIUM (UG/L)						
DET'N LIMIT = 0.050 GUIDELINE = 5.000 (A1)						
JAN	BDL	.060 <T	.	.	.	.
FEB	.120 <T	.080 <T	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	BDL	.130 <T	.	.	.	.
MAY	.080 <T	.240 <T	.680	.170 <T	.	.
JUN	BDL	BDL	.350 <T	BDL	.160 <T	BDL
JUL	BDL	BDL	.090 <T	BDL	.	.
AUG	BDL	BDL	.240 <T	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM			
RAW	TREATED	SITE 1		SITE 2		
		STANDING	FREE FLOW	STANDING	FREE FLOW	
SEP	.130 <T	BDL	.280 <T	BDL	BDL	BDL
OCT	BDL	BDL	.140 <T	BDL	.	.
NOV	BDL	BDL	.	.	.220 <T	BDL
DEC	BDL	BDL	.070 <T	BDL	.	.
COBALT (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = N/A			
JAN	.290 <T	.150 <T	.	.	.	.
FEB	.270 <T	.240 <T	.	.	.	.
MAR	.160 <T	.050 <T	.	.	.	.
APR	.130 <T	.110 <T	.	.	.	.
MAY	.580 <T	.520 <T	.540 <T	.430 <T	.	.
JUN	.150 <T	.200 <T	.230 <T	.170 <T	.150 <T	.120 <T
JUL	.260 <T	.200 <T	.200 <T	.180 <T	.	.
AUG	.130 <T	.060 <T	.100 <T	.070 <T	.040 <T	.050 <T
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	.170 <T	.110 <T	.110 <T	.110 <T	.	.
NOV	.290 <T	.170 <T	.	.	.210 <T	.040 <T
DEC	.060 <T	BDL	.050 <T	.040 <T	.	.
CHROMIUM (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (A1)			
JAN	5.100	.1.100	.	.	.	.
FEB	6.300	.530 <T	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	.780 <T	3.800	.	.	.	.
MAY	11.000	.770 <T	5.600	.590 <T	.	.
JUN	4.900	1.600	2.800	3.200	3.600	.500 <T
JUL	1.300	1.400	1.900	1.700	.	.
AUG	4.300	4.100	3.700	1.800	3.600	3.300
SEP	6.300	4.400	.330 <T	4.300	.230 <T	.240 <T
OCT	2.900	3.200	2.900	.860 <T	.	.
NOV	.590 <T	.230 <T	.	.	.160 <T	.280 <T
DEC	BDL	BDL	BDL	BDL	.	.
COPPER (UG/L)			DET'N LIMIT = .100 GUIDELINE = 1000 (A3)			
JAN	1.700	.540 <T	.	.	.	.
FEB	1.900	.870 <T	.	.	.	.
MAR	1.900	2.800	.	.	.	.
APR	2.200	.590 <T	.	.	.	.
MAY	3.800	.800 <T	210.000	17.000	.	.
JUN	9.700	.730 <T	69.000	10.000	31.000	5.700
JUL	25.000	1.000 <T	14.000	8.900	.	.
AUG	4.300	.720 <T	45.000	11.000	13.000	4.200
SEP	7.500	.720 <T	39.000	23.000	7.400	4.400
OCT	9.400	.700 <T	44.000	6.400	.	.
NOV	7.200	.510 <T	.	.	200.000	9.000
DEC	9.200	.560 <T	70.000	12.000	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
IRON (UG/L)			DET'M LIMIT = 4.000 GUIDELINE = 300. (A3)			
JAN	100.000	5.300 <T	.	.	.	.
FEB	87.000	19.000 <T	.	.	.	.
MAR	150.000	9.100 <T	.	.	.	.
APR	80.000	BDL	.	.	.	.
MAY	220.000	BDL	6.200 <T	39.000 <T	.	.
JUN	150.000	8.000 <T	36.000 <T	22.000 <T	6.100 <T	8.800 <T
JUL	94.000	BDL	33.000 <T	26.000 <T	.	.
AUG	100.000	BDL	40.000 <T	77.000	6.900 <T	5.400 <T
SEP	240.000	BDL	43.000 <T	42.000 <T	BDL	BDL
OCT	130.000	BDL	21.000 <T	17.000 <T	.	.
NOV	270.000	6.200 <T	.	.	17.000 <T	7.200 <T
DEC	72.000	7.400 <T	58.000 <T	54.000 <T	.	.
MERCURY (UG/L)			DET'M LIMIT = 0.010 GUIDELINE = 1.000 (A1)			
JAN	.040 <T	.020 <T	.	.	.	.
FEB	.020 <T	BDL	.	.	.	.
MAR	BDL	.050 <T	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	BDL	BDL	.	BDL	.	.
JUN	.020 <T	BDL	.	BDL	.	BDL
JUL	.020 <T	.020 <T	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL
SEP	ISS	BDL	.	BDL	.	BDL
OCT	BDL	.020 <T	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.
MANGANESE (UG/L)			DET'M LIMIT = .050 GUIDELINE = 50.0 (A3)			
JAN	4.200	.390 <T	.	.	.	.
FEB	3.800	.420 <T	.	.	.	.
MAR	6.700	.360 <T	.	.	.	.
APR	4.200	.310 <T	.	.	.	.
MAY	11.000	.690	1.700	4.100	.	.
JUN	7.900	.450 <T	3.300	2.300	.550	.390 <T
JUL	5.400	.340 <T	2.800	2.400	.	.
AUG	7.000	.170 <T	2.500	7.300	.310 <T	.280 <T
SEP	11.000	.350 <T	3.200	3.800	.530	.390 <T
OCT	6.000	.360 <T	1.700	1.600	.	.
NOV	11.000	.930	.	.	3.900	.580
DEC	2.700	.730	3.100	3.200	.	.
MOLYBDENUM (UG/L)			DET'M LIMIT = 0.020 GUIDELINE = N/A			
JAN	.550	.640	.	.	.	.
FEB	1.100	1.000	.	.	.	.
MAR	.580	.600	.	.	.	.
APR	.590	.810	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.940	1.400	1.200	1.200	.	.
JUN	1.000	1.200	1.100	1.100	1.100	1.000
JUL	.940	.950	.980	.970	.	.
AUG	.840	.980	.950	.910	.880	.960
SEP	.530	.810	.790	.840	.770	.800
OCT	.590	.680	.660	.690	.	.
NOV	.380 <T	.730	.	.	.690	.650
DEC	.590	.650	.550	.700	.	.
NICKEL (UG/L)						
DET'N LIMIT = 0.100 GUIDELINE = 50. (F3)						
JAN	.880 <T	.600 <T	.	.	.	.
FEB	1.800 <T	1.300 <T	.	.	.	.
MAR	.470 <T	2.300	.	.	.	.
APR	.600 <T	.600 <T	.	.	.	.
MAY	2.000 <T	1.800 <T	6.100	2.600	.	.
JUN	.610 <T	.910 <T	8.000	.770 <T	8.000	.650 <T
JUL	.550 <T	.340 <T	3.000	.700 <T	.	.
AUG	1.000 <T	.790 <T	1.800 <T	.850 <T	1.100 <T	.760 <T
SEP	.440 <T	BDL	.860 <T	BDL	BDL	BDL
OCT	.540 <T	.280 <T	.640 <T	.420 <T	.	.
NOV	1.600 <T	.880 <T	.	.	1.100 <T	.770 <T
DEC	BDL	BDL	.960 <T	BDL	.	.
LEAD (UG/L)						
DET'N LIMIT = 0.050 GUIDELINE = 50. (A1)						
JAN	.390	.110 <T	.	.	.	.
FEB	.620	.560	.	.	.	.
MAR	1.300	.340	.	.	.	.
APR	.530	.040 <T	.	.	.	.
MAY	1.200	.200 <T	1.500	.540	.	.
JUN	.970	.110 <T	1.400	.480	1.200	.190 <T
JUL	.910	.110 <T	2.100	.860	.	.
AUG	.650	.030 <T	1.300	.590	1.500	.220
SEP	7.300	.090 <T	1.200	.320	.240	.220
OCT	.790	.090 <T	1.000	.210	.	.
NOV	1.200	.090 <T	.	.	.650	.130 <T
DEC	.450 <T	.070 <T	2.000	.210 <T	.	.
ANTIMONY (UG/L)						
DET'N LIMIT = .050 GUIDELINE = 146. (D4)						
JAN	.470	.460	.	.	.	.
FEB	.650	.660	.	.	.	.
MAR	.510	.650	.	.	.	.
APR	.520	.570	.	.	.	.
MAY	.730	1.000	1.000	1.100	.	.
JUN	.920	.660	.740	.770	.750	.780
JUL	.640	.780	.750	.560	.	.
AUG	.630	.580	.740	.700	.700	.720
SEP	.520	.450	.610	.560	.550	.450

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	.310	.360	.510	.340	.	.
NOV	.400	.450	.	.	.460	.400
DEC	.430 <T	.320 <T	.460 <T	.280 <T	.	.
SELENIUM (UG/L)			DET'N LIMIT = 0.200 GUIDELINE = 10. (A1)			
JAN	1.200 <T	1.100 <T	.	.	.	.
FEB	2.400 <T	5.700 <T	.	.	.	.
MAR	1.100 <T	5.200 <T	.	.	.	.
APR	BDL	3.200 <T	.	.	.	.
MAY	1.800 <T	6.200 <T	9.800 <T	2.900 <T	.	.
JUN	BDL	2.100 <T	3.000 <T	4.300 <T	3.700 <T	1.700 <T
JUL	1.100 <T	3.200 <T	3.600 <T	3.200 <T	.	.
AUG	1.300 <T	2.600 <T	2.400 <T	1.900 <T	3.500 <T	3.700 <T
SEP	BDL	BDL	BDL	1.200 <T	BDL	1.100 <T
OCT	BDL	BDL	BDL	BDL	.	.
NOV	BDL	BDL	.	.	BDL	BDL
DEC	BDL	1.900 <T	2.000 <T	BDL	.	.
STRONTIUM (UG/L)			DET'N LIMIT = .050 GUIDELINE = N/A			
JAN	120.000	120.000	.	.	.	.
FEB	130.000	120.000	.	.	.	.
MAR	120.000	120.000	.	.	.	.
APR	120.000	130.000	.	.	.	.
MAY	110.000	110.000	110.000	110.000	.	.
JUN	110.000	140.000	120.000	130.000	130.000	130.000
JUL	120.000	120.000	110.000	110.000	.	.
AUG	120.000	120.000	120.000	120.000	120.000	120.000
SEP	120.000	130.000	120.000	130.000	130.000	130.000
OCT	120.000	120.000	120.000	110.000	.	.
NOV	130.000	140.000	.	.	130.000	130.000
DEC	120.000	120.000	120.000	120.000	.	.
TITANIUM (UG/L)			DET'N LIMIT = .050 GUIDELINE = N/A			
JAN	4.500	2.800	.	.	.	.
FEB	7.300	5.800	.	.	.	.
MAR	8.000	6.600	.	.	.	.
APR	5.000	2.400	.	.	.	.
MAY	5.500	3.300	3.500	3.700	.	.
JUN	5.400	4.600	5.800	5.900	6.000	7.400
JUL	5.300	4.200	4.500	4.900	.	.
AUG	5.500	4.700	5.700	5.200	5.500	6.500
SEP	4.300	3.100	3.800	4.200	4.500	4.500
OCT	4.700	3.000	3.900	3.500	.	.
NOV	6.000	3.000	.	.	4.500	4.400
DEC	3.100 <T	2.600 <T	3.700 <T	3.700 <T	.	.
THALLIUM (UG/L)			DET'N LIMIT = .010 GUIDELINE = 13. (D4)			

TABLE 5

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WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	.030 <T	BDL	.	.	.	.
FEB	BDL	BDL	.	.	.	.
MAR	.030 <T	.020 <T	.	.	.	.
APR	.120 <T	BDL	.	.	.	.
MAY	BDL	BDL	BDL	BDL	.	.
JUN	.020 <T	BDL	BDL	BDL	BDL	BDL
JUL	.080 <T	BDL	BDL	.030 <T	.	.
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	.020 <T	BDL	BDL	BDL	.	.
NOV	.040 <T	.040 <T	.	.	.020 <T	BDL
DEC	BDL	BDL	BDL	BDL	.	.

URANIUM (UG/L)

DET'N LIMIT = .020 GUIDELINE = 100.(B1)

JAN	.280	.120 <T	.	.	.	.
FEB	.710	.530	.	.	.	.
MAR	.340	.100 <T	.	.	.	.
APR	.350	.210	.	.	.	.
MAY	.430	.230	.220	.180 <T	.	.
JUN	.600	.090 <T	.140 <T	.100 <T	.160 <T	.080 <T
JUL	.550	.360	.150 <T	.410	.	.
AUG	.480	.160 <T	.120 <T	.120 <T	.140 <T	.100 <T
SEP	.220	.030 <T	.030 <T	BDL	BDL	BDL
OCT	.250	.060 <T	.030 <T	.050 <T	.	.
NOV	.300	.040 <T	.	.	.030 <T	.050 <T
DEC	.240 <T	.070 <T	BDL	BDL	.	.

VANADIUM (UG/L)

DET'N LIMIT = .050 GUIDELINE = N/A

JAN	.420 <T	.300 <T	.	.	.	.
FEB	.400 <T	.330 <T	.	.	.	.
MAR	.310 <T	.130 <T	.	.	.	.
APR	.360 <T	.240 <T	.	.	.	.
MAY	.870	.490 <T	.480 <T	.390 <T	.	.
JUN	.570	.310 <T	.440 <T	.310 <T	.340 <T	.370 <T
JUL	.590	.360 <T	.380 <T	.430 <T	.	.
AUG	.700	.520	.440 <T	.450 <T	.530	.540
SEP	.710	.310 <T	.320 <T	.320 <T	.330 <T	.380 <T
OCT	.450 <T	.550	.390 <T	.470 <T	.	.
NOV	.650	.700	.	.	.570	.620
DEC	.310 <T	.740	.500 <T	.580	.	.

ZINC (UG/L)

DET'N LIMIT = .001 GUIDELINE = 5000. (A3)

JAN	3.500	1.800	.	.	.	.
FEB	3.300	2.500	.	.	.	.
MAR	3.200	1.200	.	.	.	.
APR	2.700	1.200	.	.	.	.
MAY	5.400	2.200	320.000	5.500	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	3.800	2.300	110.000	3.000	84.000	4.600
JUL	3.000	1.800	21.000	2.400	.	.
AUG	2.200	.970 <T	43.000	2.200	15.000	3.300
SEP	4.500	.770 <T	53.000	1.900	7.100	3.000
OCT	3.600	1.400	35.000	2.000	.	.
NOV	3.900	1.200	.	.	8.300	2.700
DEC	3.200	2.200	46.000	2.400	.	.

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WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)	
ALPHA BHC (NG/L)						
JAN	1.000 <T	BDL	.	.	.	.
FEB	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	2.000 <T	BDL	.	.	.	.
MAY	2.000 <T	ILA	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	.
JUL	BDL	BDL	.	BDL	.	BDL
AUG	1.000 <T	BDL	.	BDL	.	BDL
SEP	1.000 <T	BDL	.	BDL	.	.
OCT	BDL	BDL	.	1.000 <T	.	BDL
NOV	2.000 <T	1.000 <T	.	.	.	.
DEC	BDL	BDL	.	BDL	.	.
ATRAZINE (NG/L)			DET'N LIMIT = 50.00		GUIDELINE = 60000 (B3)	
JAN	BDL	BDL	.	.	.	.
FEB	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	BDL	BDL	.	BDL	.	BDL
JUN	115	BDL	.	BDL	.	.
JUL	100.000 <T	BDL	.	BDL	.	.
AUG	BDL	BDL	.	.	.	115
SEP	BDL	BDL	.	115	.	.
OCT	BDL	BDL	.	.	.	.
NOV	BDL	BDL	.	.	.	.
DEC	BDL	BDL	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT				DISTRIBUTION SYSTEM			
RAW	TREATED	SITE 1		SITE 2			
		STANDING	FREE FLOW	STANDING	FREE FLOW		

PHENOLICS							
PHENOLICS (UG/L)		DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)			
JAN	2.000	1.800	.	.	.	.	.
FEB	1.800	1.200	.	.	.	.	.
MAR	1.600	.800 <T	.	.	.	.	.
APR	1.000	1.000	.	.	.	.	.
MAY	1.000	.600 <T	.	.	.	.	.
JUN	1.200	BDL	.	.	.	.	.
JUL	2.400	.400 <T	.	.	.	.	.
AUG	15.200	1.400	.	.	.	.	.
SEP	2.600	2.400	.	.	.	.	.
OCT	1.000	BDL	.	.	.	.	.
NOV	.600 <T	BDL	.	.	.	.	.
DEC	.800 <T	BDL	.	.	.	.	.

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WATER TREATMENT PLANT			DISTRIBUTION SYSTEM			
RAW	TREATED	SITE 1		SITE 2		
		STANDING	FREE FLOW	STANDING	FREE FLOW	
VOLATILES		DET'N LIMIT = .050 GUIDELINE = 5.0 (B1)				
BENZENE (UG/L)	)					
JAN	BDL	BDL	.	.	.	.
FEB	.400 <T	BDL	.	.	.	.
MAR	.050 <T	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	.050 <T	BDL	.	BDL	.	.
JUN	BDL	BDL	.	BDL	.	BDL
JUL	1NR	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.
TOLUENE (UG/L)		DET'N LIMIT = .050 GUIDELINE = 24.0 (B4)				
JAN	BDL	BDL	.	.	.	.
FEB	.050 <T	BDL	.	.	.	.
MAR	.100 <T	.100 <T	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	BDL	.100 <T	.	.150 <T	.	.
JUN	BDL	.050 <T	.	.050 <T	.	.100 <T
JUL	1NR	.100 <T	.	BDL	.	.
AUG	BDL	BDL	.	.100 <T	.	.200 <T
SEP	BDL	.100 <T	.	.100 <T	.	.050 <T
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.
ETHYLBENZENE (UG/L)		DET'N LIMIT = .050 GUIDELINE = 2.4 (B4)				
JAN	BDL	BDL	.	.	.	.
FEB	.050 <T	.050 <T	.	.	.	.
MAR	.050 <T	BDL	.	.	.	.
APR	BDL	.050 <T	.	.	.	.
MAY	BDL	BDL	.	BDL	.	.
JUN	BDL	BDL	.	BDL	.	.050 <T
JUL	1NR	.050 <T	.	BDL	.	.
AUG	BDL	.050 <T	.	BDL	.	.050 <T
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	.050 <T	.	BDL	.	.
P-XYLENE (UG/L)		DET'N LIMIT = .100 GUIDELINE = 300 (B4)				
JAN	BDL	BDL	.	.	.	.
FEB	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	.100 <T	BDL	.	.	.	.
MAY	BDL	BDL	.	BDL	.	.
JUN	BDL	BDL	.	BDL	.	BDL
JUL	1NR	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.

M-XYLENE (UG/L)			DET'N LIMIT = .100 GUIDELINE = 300 (84)			
JAN	BDL	BDL	.	.	.	.
FEB	.100 <T	BDL	.	.	.	.
MAR	.100 <T	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	.100 <T	BDL	.	BDL	.	.
JUN	BDL	BDL	.	BDL	.	.100 <T
JUL	1NR	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.

O-XYLENE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 300 (84)			
JAN	.050 <T	BDL	.	.	.	.
FEB	.050 <T	BDL	.	.	.	.
MAR	.050 <T	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	.050 <T	BDL	.	BDL	.	.
JUN	BDL	BDL	.	BDL	.	.050 <T
JUL	1NR	.050 <T	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.

STYRENE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 46.5 (02)			
JAN	BDL	BDL	.	.	.	.
FEB	.200 <T	BDL	.	.	.	.
MAR	.200 <T	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	BDL	BDL	.	BDL	.	.
JUN	BDL	BDL	.	.050 <T	.	BDL
JUL	1NR	BDL	.	.050 <T	.	.
AUG	BDL	.300 <T	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	.150 <T	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.
CHLOROFORM (UG/L)			DET'N LIMIT = .100 GUIDELINE = 350 (A1+)			
JAN	BDL	12.800	.	.	.	.
FEB	BDL	8.800	.	.	.	.
MAR	.300 <T	18.000	.	.	.	.
APR	BDL	17.700	.	.	.	.
MAY	BDL	16.200	.	12.900	.	.
JUN	BDL	23.800	.	16.300	.	18.300
JUL	INR	19.500	.	18.800	.	.
AUG	.200 <T	16.700	.	14.900	.	21.300
SEP	BDL	18.800	.	17.700	.	19.900
OCT	BDL	10.100	.	10.200	.	.
NOV	BDL	11.200	.	.	.	12.200
DEC	BDL	14.000	.	12.300	.	.
111, TRICHLOROETHANE (UG/L)			DET'N LIMIT = .020 GUIDELINE = 200 (D1)			
JAN	BDL	BDL	.	.	.	.
FEB	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	BDL	.020 <T	.	.	.	.
MAY	BDL	BDL	.	BDL	.	.
JUN	BDL	.020 <T	.	.040 <T	.	.040 <T
JUL	INR	BDL	.	BDL	.	.
AUG	BDL	.020 <T	.	.020 <T	.	BDL
SEP	BDL	.020 <T	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	.
NOV	BDL	.060 <T	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.
DICHLOROBROMOMETHANE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 350 (A1+)			
JAN	BDL	9.100	.	.	.	.
FEB	BDL	7.200	.	.	.	.
MAR	.100 <T	10.100	.	.	.	.
APR	BDL	8.700	.	.	.	.
MAY	BDL	11.650	.	11.650	.	.
JUN	BDL	9.650	.	9.250	.	8.450
JUL	INR	10.800	.	11.500	.	.
AUG	BDL	9.150	.	9.550	.	10.400
SEP	BDL	8.900	.	9.500	.	8.800
OCT	BDL	7.900	.	8.150	.	.
NOV	BDL	7.900	.	.	.	7.950
DEC	BDL	9.250	.	10.050	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

		RAW	TREATED	SITE 1		SITE 2	
				STANDING	FREE FLOW	STANDING	FREE FLOW
CHLORODIBROMOMETHANE (UG/L)					DET'M LIMIT = .100	GUIDELINE = 350 (A1+)	
JAN	BDL		4.700	.	.	.	.
FEB	BDL		4.300	.	.	.	.
MAR	BDL		5.400	.	.	.	.
APR	BDL		4.800	.	.	.	.
MAY	BDL		8.100	.	8.500	.	.
JUN	BDL		4.000	.	4.900	.	4.600
JUL	INR		6.000	.	6.500	.	.
AUG	BDL		5.200	.	5.700	.	5.600
SEP	BDL		4.700	.	5.100	.	4.400
OCT	BDL		6.000	.	6.000	.	.
NOV	BDL		4.100	.	.	.	4.200
DEC	BDL		5.100	.	5.500	.	.
T-CHLOROETHYLENE (UG/L)					DET'M LIMIT = .050	GUIDELINE = 10.0 (C2)	
JAN	.200 <T		.100 <T	.	.	.	.
FEB	.150 <T		BDL	.	.	.	.
MAR	.050 <T		.050 <T	.	.	.	.
APR	.100 <T		.100 <T	.	.	.	.
MAY	BDL		.050 <T	.	.050 <T	.	.
JUN	BDL		BDL	.	BDL	.	BDL
JUL	INR		.050 <T	.	BDL	.	.
AUG	BDL		BDL	.	BDL	.	.150 <T
SEP	BDL		BDL	.	BDL	.	.100 <T
OCT	.250 <T		BDL	.	BDL	.	.
NOV	BDL		BDL	.	.	.	BDL
DEC	.250 <T		BDL	.	BDL	.	.
BROMOFORM (UG/L)					DET'M LIMIT = .200	GUIDELINE = 350 (A1+)	
JAN	BDL		.600 <T	.	.	.	.
FEB	BDL		.600 <T	.	.	.	.
MAR	BDL		.800 <T	.	.	.	.
APR	BDL		.600 <T	.	.	.	.
MAY	BDL		1.000 <T	.	1.200 <T	.	.
JUN	BDL		BDL	.	.600 <T	.	.600 <T
JUL	INR		.800 <T	.	.600 <T	.	.
AUG	BDL		.600 <T	.	.800 <T	.	1.000 <T
SEP	BDL		.600 <T	.	.600 <T	.	.600 <T
OCT	BDL		1.000 <T	.	1.200 <T	.	.
NOV	BDL		.600 <T	.	.	.	.600 <T
DEC	BDL		.800 <T	.	.800 <T	.	.
TOTL TRINALOMETHANES (UG/L)					DET'M LIMIT = .500	GUIDELINE = 350 (A1)	
JAN	BDL		27.200	.	.	.	.
FEB	BDL		20.900	.	.	.	.
MAR	BDL		34.300	.	.	.	.
APR	BDL		31.800	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS 1989

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	BDL	36.950	.	34.200	.	.
JUN	BDL	37.450	.	31.050	.	31.950
JUL	INR	37.100	.	37.400	.	.
AUG	BDL	31.650	.	30.950	.	38.300
SEP	BDL	33.000	.	32.900	.	33.700
OCT	BDL	25.000	.	25.550	.	.
NOV	BDL	23.800	.	.	.	24.950
DEC	BDL	29.100	.	28.700	.	.

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

Table 6

<u>SCAN/PARAMETER</u>	<u>UNIT</u>	<u>DETECTION</u>		<u>GUIDELINE</u>
		<u>LIMIT</u>		
BACTERIOLOGICAL				
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0	(A1)
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML	(A1)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL	(A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A	
CHLOROAROMATICS				
HEXACHLOROBUTADIENE	NG/L	1.000	450.	(D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000	(I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000	(I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000	(I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000	(I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000	(D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000	(D4)
HEXACHLOROBENZENE	NG/L	1.0	10.	(C1)
HEXACHLOROETHANE	NG/L	1.000	1900.	(D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A	
PENTACHLOROBENZENE	NG/L	1.000	74000	(D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A	
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A	
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A	
CHLOROPHENOLS				
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A	
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A	
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A	
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000	(D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	2000.	(B4)
PENTACHLOROPHENOL	NG/L	50.	30000.	(B4)
CHEMISTRY (FLD)				
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A	
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A	
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A	
FIELD PH	DMSNLESS	N/A	6.5-8.5	(A4)
FIELD TEMPERATURE	°C	N/A	<15 °C	(A1)
FIELD TURBIDITY	FTU	N/A	1.0	(A1)
CHEMISTRY (LAB)				
ALKALINITY	MG/L	.200	30-500	(A4)
CALCIUM	MG/L	.100	100.	(F2)
CYANIDE	MG/L	.001	.20	(A1)
CHLORIDE	MG/L	.200	250.	(A3)
COLOUR	TCU	.5	5.0	(A3)
CONDUCTIVITY	UMHO/CM	1.	400.	(F2)
FLUORIDE	MG/L	.01	2.4	(A1)
HARDNESS	MG/L	.50	80-100	(A4)
MAGNESIUM	MG/L	.05	30.	(F2)

<u>SCAN/PARAMETER</u>	<u>UNIT</u>	<u>DETECTION</u>	
		<u>LIMIT</u>	<u>GUIDELINE</u>
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5 (A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40 (F2)
SULPHATE	MG/L	.200	500. (A3)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)

METALS

ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)

PHENOLICS

PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
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PESTICIDES & PCB

ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE (LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADIX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE (THIODAN SULPHATE)	NG/L	4.0	N/A

SCAN/PARAMETER	DETECTION		GUIDELINE
	UNIT	LIMIT	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000. (A1)
HEPTACHLOR	NG/L	1.0	3000. (A1)
METOLACHLOR	NG/L	500.	50000. (B3)
MIREX	NG/L	5.0	N/A
OKYCHLORDANE	NG/L	2.0	N/A
O,P-DDT	NG/L	5.0	30000. (A1)
PCB	NG/L	20.0	3000. (A2)
O,P-DDD	NG/L	5.0	N/A
PPDDE	NG/L	1.0	30000. (A1)
PPDDT	NG/L	5.0	30000. (A1)
ATRATONE	NG/L	50.	N/A
ALACHLOR	NG/L	500.	35000. (D2)
PROMETONE	NG/L	50.	52500. (D3)
PROPACINE	NG/L	50.	16000. (D2)
PROMETRYNE	NG/L	50.	1000. (B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000. (B2)
SIMAZINE	NG/L	50.	10000. (B3)

POLYAROMATIC HYDROCARBONS

PHENANTHRENE	NG/L	10.0	N/A
ANTHRACENE	NG/L	1.0	N/A
FLUORANTHENE	NG/L	20.0	42000. (D4)
PYRENE	NG/L	20.0	N/A
BENZO(A)ANTHRACENE	NG/L	20.0	N/A
CHRYSENE	NG/L	50.0	N/A
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A
BENZO(E)PYRENE	NG/L	50.0	N/A
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A
PERYLENE	NG/L	10.0	N/A
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A
BENZO(A)PYRENE	NG/L	5.0	10. (B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A
BENZO(B)CHRYSENE	NG/L	2.0	N/A
CORONENE	NG/L	10.0	N/A

SPECIFIC PESTICIDES

TOXAPHENE	NG/L	N/A	5000. (A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000. (B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000. (A1)
2,4-DICHLOROPHENOXYBUTYRIC ACID	NG/L	200.	18000. (B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A
DICAMBA	NG/L	100.	120000. (B1)
PICLORAM	NG/L	100.	190000. (B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000. (A1)
DIAZINON	NG/L	20.	20000. (B1)
DICHLOROVOS	NG/L	20.	N/A
DURSBAN	NG/L	20.	N/A
ETHION	NG/L	20.	35000. (G)
GUTHION (AZINPHOSMETHYL)	NG/L	N/A	20000. (B1)
MALATHION	NG/L	20.	190000. (B1)
MEVINPHOS	NG/L	20.	N/A
METHYL PARATHION	NG/L	50.	7000. (A1)
METHYLTRITHION	NG/L	20.	N/A

SCAN/PARAMETER	DETECTION		
	UNIT	LIMIT	GUIDELINE
PARATHION	NG/L	20.	50000. (B1)
PHORATE (THIMET)	NG/L	20.	2000. (B3)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	90000. (B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALLATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	90000. (B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)

VOLATILES

BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHYLENE DIBROMIDE	UG/L	.05	.05 G)
METHYLENE CHLORIDE	UG/L	.500	50. (B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70. (D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0 (D5)
TRICHLOROETHYLENE	UG/L	.100	50. (B1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60 (D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17 (D4)
CHLOROBENZENE	UG/L	.100	60. (D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0 (B4)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0 (B4)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	140. (D5)